

Docket No. 7002/3

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ABSTRACT

The present invention relates to a self-tightening keyless chuck to enable electric percussive drills to grip a tool shank. The chuck includes a rear sleeve, a body, a bearing ring, a bearing assembly, a nut, a jaw, a front sleeve and a stopper and so on. The bearing assembly utilizing a ball bearing is positioned with a circumferential arcuate race with a fixed depth, and the bottom surfaces of said circumferential arcuate race are provided with a plurality of ball-shape grooves. During the chuck grips a tool shank, the balls of said ball-bearing enter into the ball-shape grooves and are locked there, so as to prevent the tool from loosening due to the percussion vibration. In addition, the front sleeve engages with said nut through radial smooth press-fit to securely transmit a torque.